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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,045	12/21/2000	Sung-Kon Kim	3430-0154P	5517
2292	7590	01/07/2005		
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER DUONG, THOI V	
			ART UNIT 2871	PAPER NUMBER

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/741,045

Applicant(s)

KIM, SUNG-KON

Examiner

Thoi V Duong

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 October 2004.  
 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 ~~is/are~~ pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-20 ~~is/are~~ rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☒ All    b) ☐ Some \*    c) ☐ None of:  
     1. ☒ Certified copies of the priority documents have been received.  
     2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
     Paper No(s)/Mail Date \_\_\_\_\_.  
 4) ☐ Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) ☐ Notice of Informal Patent Application (PTO-152)  
 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 26, 2004 has been entered.

Accordingly, claim 7 was amended, and new claims 11-20 were added. Currently, claims 1-20 are pending in this application.

### ***Claim Objections***

2. Claim 6 is objected to because of the following informalities: claim 6 recites the limitation "the light guide device" in line 1. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

3. Claim 16 is objected to because of the following informalities: claim 16 recites the limitation "the light guide device" in line 1. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application

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by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-5, 7, 9 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Nagakubo et al. (USPN 6,219,117 B1).

Re claims 1 and 3, as shown in Figs. 1 and 3, Nagakubo et al. discloses a liquid crystal display device, comprising:

a liquid crystal panel including two substrates with a liquid crystal layer interposed therebetween;

a back light device including:

- a) at least one lamp 8;
- b) a light guide plate 5 for guiding light emitting from the lamp;
- c) a diffusing sheet 4 for diffusing light emitting from the light guide plate;
- d) at least one prism sheet 3 located on the diffusing sheet, concentrating light (col. 6, lines 30-34);
- e) a protecting sheet 2 located on the prism sheet;
- f) a reflector 6 located under the light guide plate, reflecting light directing downward the light guide plate,

wherein an edge portion of the diffusing sheet adjacent to the lamp includes a printing portion 4a made of colorless ink (white material) containing a light scattering agent (col. 7, lines 22-47);

wherein, re claims 2 and 4, there are two lamps (col. 14, lines 9-15);

wherein, re claims 5 and 7, the light guide plate has a plurality of patterns 5b (col. 6, lines 42-44); and

wherein, re claims 9 and 10, light reflected from a bottom surface of the device causes constructive interference with light emitting from the lamp, whereby a bright line is prevented (col. 14, lines 16-41);

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagakubo et al. (USPN 6,219,117 B1) in view of Mashino et al. (USPN 5,886,759).

Nagakubo et al. discloses a liquid crystal display device that is basically the same as that recited in claims 6 and 8 except for the light guide plate having a plurality of dot patterns.

As shown in Fig. 1A, Mashino et al. discloses a back light device comprising a light guide plate 37 having a pattern of a plurality of light diffusion dots 67 on the

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underside of the light guide plate for transmitting light introduced into the light guide plate and subjected to total reflection (col. 4, lines 34-38).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal display of Nagakubo et al. with the teaching of Mashino et al. by forming a light guide plate having a plurality of dot patterns for effectively transmitting light introduced into the light guide.

8. Claims 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suga et al. (USPN 6,425,673 B1) in view of Nagakubo et al. (USPN 6,219,117 B1).

Re claim 11, as shown in Fig. 2, Suga et al. discloses a back light device for use in a liquid crystal display device, comprising;

- at least one lamp 8;

- a light guide plate 2 for guiding light emitting from the lamp;

- a diffusing sheet 13 for diffusing light emitting from the light guide plate 2;

- at least one prism sheet 12 located on the diffusing sheet, concentrating light;

and

- a reflector 14 located under the light guide plate, reflecting light directing downward the light guide plate.

As shown in Fig. 6B, at least one of an edge portion of the reflector 14 includes a diffusion-reflective pattern 26 (Applicant's printing portion) made of white ink (Applicant's colorless ink) containing a light scattering agent,

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wherein, re claims 19 and 20, light reflected from a bottom surface of the device causes constructive interference with light emitting from the lamp, whereby a bright line is prevented (col. 13, lines 19-28).

Re claim 12, it is obvious that the liquid crystal display device comprises two substrates with a liquid crystal layer interposed therebetween as well known in the art.

Suga et al. discloses a back light device for use in a liquid crystal display device that is basically the same as that recited in claims 11 and 12 except for a protecting sheet located on the prism sheet.

As shown in Fig. 1, Nagakubo et al. discloses a liquid crystal display device comprising a liquid crystal panel 1 and a protecting sheet 2 located on a prism sheet 3 to diffuse light and protect the surface of the prism sheet 3 (col. 6, lines 25-30).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the back light device of Suga et al. with the teaching of Nagakubo et al. by forming a protecting sheet on the prism sheet to protect the surface of the prism sheet (col. 6, lines 25-30).

Re claims 13 and 14, the back light device of Suga et al. has two lamps 8.

Finally, re claims 15-18, the light guide plate of Suga et al. has a plurality of patterns 6, wherein the patterns are dots (col. 6, lines 60-67, see also Fig. 14).

### ***Response to Arguments***

9. Applicant's arguments filed October 31, 2003 have been fully considered but they are not persuasive.

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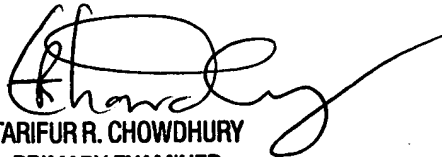
Re claims 1 and 3, Applicant argued that Nagakubo utterly fails to disclose or suggest "a printing portion made of colorless ink containing a light scattering agent." That is, Nagakubo discloses a translucent white material can transmit light to a certain extent. The Examiner disagrees with the Applicant's remarks because, as a part of the diffusing sheet 4, the printing portion 4a is made of a white material which not only transmits a part of light from the backlight source but also makes irregular reflection the remaining light from the backlight source in the light guide plate (column 7, lines 22-35). Accordingly, the printing portion 4a also has a scattering function. Moreover, according to Merriam Webster's Collegiate Dictionary, Tenth Edition, "white" is defined as "free from color" (page 1348) and "colorless" is defined as "lacking color" (page 227). Therefore, a "colorless ink" is the same as an "ink having a white material." Thus, Nagakubo anticipates the invention as set forth in claims 1 and 3.

Finally, the reference of Mashino is employed for teaching a light guide plate having a multiplicity of light diffusion dots as set forth in claims 6 and 8.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (571) 272-2293.

Thoi Duong  
01/03/2005



TARIFUR R. CHOWDHURY  
PRIMARY EXAMINER